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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
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10/621,988

07/17/2003

Yaron Keidar

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EXAMINER

PEFFLEY, MICHAEL F

ART UNIT

PAPER NUMBER

3739

SHORTENED STATUTORY PERIOD OF RESPONSE	MAIL DATE	DELIVERY MODE
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3 MONTHS

02/26/2007

PAPER

Please find below and/or attached an Office communication concerning this application or proceeding.

If NO period for reply is specified above, the maximum statutory period will apply and will expire 6 MONTHS from the mailing date of this communication.

Office Action Summary

Application No.

10/621,988

Applicant(s)

KEIDAR, YARON

Examiner

Michael Peffley

Art Unit

3739

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 26 December 2006.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1-45 is/are pending in the application.
- 4a) Of the above claim(s) 17-45 is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1-16 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 17 July 2003 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- | | |
|----------------------------------------------------------------------------------------|-------------------------------------------------------------------|
| 1) <input checked="" type="checkbox"/> Notice of References Cited (PTO-892) | 4) <input type="checkbox"/> Interview Summary (PTO-413) |
| 2) <input type="checkbox"/> Notice of Draftsperson's Patent Drawing Review (PTO-948) | Paper No(s)/Mail Date. _____ |
| 3) <input checked="" type="checkbox"/> Information Disclosure Statement(s) (PTO/SB/08) | 5) <input type="checkbox"/> Notice of Informal Patent Application |
| Paper No(s)/Mail Date <u>8/7/06</u> | 6) <input type="checkbox"/> Other: _____ |

Art Unit: 3739

Continued Examination Under 37 CFR 1.114

A request for continued examination under 37 CFR 1.114, including the fee set forth in 37 CFR 1.17(e), was filed in this application after final rejection. Since this application is eligible for continued examination under 37 CFR 1.114, and the fee set forth in 37 CFR 1.17(e) has been timely paid, the finality of the previous Office action has been withdrawn pursuant to 37 CFR 1.114. Applicant's submission filed on December 26, 2006 has been entered.

Information Disclosure Statement

The information disclosure statement (IDS) submitted on August 7, 2006 was filed after the mailing date of the Final Office action on June 21, 2006. However, in view of applicant's acceptable RCE, the IDS will now be deemed to be resubmitted and entered with the RCE. Accordingly, the information disclosure statement is being considered by the examiner.

Election/Restrictions

Claims 17-45 remain withdrawn from further consideration pursuant to 37 CFR 1.142(b) as being drawn to a nonelected species, there being no allowable generic or linking claim. Election was made **without** traverse in the reply filed on September 1, 2005.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which

Art Unit: 3739

said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

Claims 1-10 and 12-15 are rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al (5,295,484) in view of the teaching of Panescu et al (2003/0078509).

Marcus et al discloses a catheter for mapping and ablating cardiac tissue, the catheter having an ultrasound transducer mounted at the distal end. The transducer may take a variety of shapes, and includes a back surface mounted to the catheter for directing energy in a forward direction. In Figures 8 and 9, the transducer is mounted to the distal end and has a flat face for directing energy forward (see col. 7, lines 50-55). Figure 6 shows a rectangular-faced transducer with the back surface mounted in the catheter body. Marcus et al also disclose electrodes on the distal catheter surface for sensing a location (e.g. through mapping) in the heart. However, Marcus et al do not specifically disclose that the electrodes function as sensors to sense a location and an orientation of the transducer within the patient. With regard to the various sizes for the transducer and the spacing for the sensors, the examiner maintains that such parameters would be a matter of obvious design choice dependent on the particular procedure. It is noted that applicant's specification has not indicated any particular criticality or unexpected result associated with these values.

Panescu et al, as addressed in previous Office actions, also disclose a catheter for the mapping and ablation of cardiac tissue. In particular, Panescu et al teach that it is advantageous to provide such a catheter system with a sensor means to precisely locate the catheter device, as well as determine the

Art Unit: 3739

orientation of the catheter (and inherently it's components) within the body. See paragraphs [0103-0104].

To have provided the Marcus et al catheter with a location sensor means to precisely determine the location and orientation of the catheter within the body to assure treatment of a desired tissue target would have been an obvious modification for one of ordinary skill in the art in view of the teaching of Panescu et al.

Claim 11 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al ('484) and Panescu et al ('509) as applied to claim 1 above, and further in view of the teaching of Chandrasekaran et al (6,394,956).

The combination of the Marcus et al catheter with the Panescu et al teaching has been addressed previously. Marcus et al disclose electrodes on the end of the catheter, but fail to specifically disclose the ultrasound transducer mounted on the surface of the electrode. Rather, the electrodes are provided in proximity to the transducer.

Chandrasekaran et al disclose another mapping and ablation catheter and specifically teach that it is known to mount an ultrasound transducer (34) directly to an electrode (38) at the distal end of the catheter assembly. Such a mounting allows the use of the transducer in direct relationship with the electrode.

To have provided the Marcus et al device with a tip electrode and the transducer mounted to the transducer, as fairly taught by Chandrasekaran et al,

Art Unit: 3739

to allow for the use of RF and ultrasound energy at the same location would have been an obvious consideration for one of ordinary skill in the art.

Claim 16 is rejected under 35 U.S.C. 103(a) as being unpatentable over Marcus et al ('484) and Panescu et al ('509) as applied to claim 1 above, and further in view of the teaching of Crowley et al (6,004,269).

Again, the combination of the Marcus et al catheter with the Panescu et al teaching has been addressed. Neither catheter specifically provides for a fluid channel to provide an irrigant to tissue.

Crowley et al disclose another ablation catheter that includes an ultrasound transducer and electrodes. In particular, Crowley et al teach of the advantages of providing a flushing or ablation enhancement solution through a lumen in the catheter (col. 10, lines 38-45).

To have provided the Marcus et al catheter, as modified by the teaching of Panescu et al, with a fluid lumen to provide an irrigant and/or ablation enhancement fluid to enhance the ablation of tissue would have been an obvious consideration for one of ordinary skill in the art in view of the teaching of Crowley et al.

Conclusion

The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Castellano et al (5,606,974) disclose another catheter device having a distally located ultrasound transducer (Figure 5). Stasz (4,936,281) disclose a device that has an electrode mounted to an ultrasound

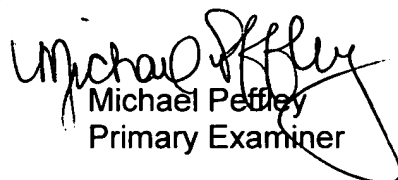
Art Unit: 3739

transducer at the distal end of a catheter. Moore et al (6,245,020) disclose yet another catheter device having an ultrasound transducer at the end of the catheter in proximity to electrodes.

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Michael Peffley whose telephone number is (571) 272-4770. The examiner can normally be reached on Mon-Fri from 6am-3pm.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Linda Dvorak can be reached on (571) 272-4764. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.


Michael Peffley
Primary Examiner

Art Unit: 3739

Art Unit 3739

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February 16, 2007